Volume 258

CONTENTS

10 January 1994

Low-dimensional description of free-shear-flow coherent structures and their dynamical behaviour. MOJTABA RAJAEE, STURE K. F. KARLSSON and LAWRENCE SIROVICH *page* 1

Velocity measurements in a high-Reynolds-number, momentum-conserving, axisymmetric, turbulent jet. HUSSEIN J. HUSSEIN, STEVEN P. CAPP and WILLIAM K. GEORGE 31

Self-similar gravity currents with variable inflow revisited: plane currents. JULIO GRATTON and CLAUDIO VIGO 77

Steady inviscid rotational flows with free surfaces. J.-M. VANDEN-BROECK and E. O. TUCK 105

Crest instabilities of gravity waves. Part 1. The almost-highest wave. MICHAEL S. LONGUET-HIGGINS and R. P. CLEAVER 115

On the linear stability of compressible plane Couette flow. PETER W. DUCK, GORDON ERLEBACHER and M. YOUSUFF HUSSAINI 131

The effect of hydrodynamic interactions on the tracer and gradient diffusion of integral membrane proteins in lipid bilayers. STUART J. BUSSELL, DANIEL A. HAMMER and DONALD L. KOCH 167

Nonlinear dynamics of viscous droplets. E. BECKER, W. J. HILLER and T. A. KOWALEWSKI 191

A model for characterization of a vortex pair formed by shock passage over a light-gas inhomogeneity. JOSEPH YANG, TOSHI KUBOTA and EDWARD E. ZUKOSKI 217

The dynamics of vorticity tubes in homogeneous turbulence. A. VINCENT and M. MENEGUZZI 245

Multiple linear instability of layered stratified shear flow. COLM-CILLE P. CAULFIELD 255

An experimental investigation of the flow around a circular cylinder: influence of aspect ratio. C. NORBERG 287

The analytical solution of the Riemann problem in relativistic hydrodynamics. JOSÉ Mª MARTÍ and EWALD MÜLLER 317

Numerical simulation of inelastic frictional spheres in simple shear flow. C. K. K. LUN and A. A. BENT 335

A determination of the effective viscosity for the Brinkman–Forchheimer flow model. R. C. GIVLER and S. A. ALTOBELLI 355

REVIEWS

Computational Techniques for Fluid Dynamics, Vols I, II, by C. A. J. Fletcher 371

Topics in Fluid Mechanics, by R. Chevray and J. Mathieu 372

INDEX TO VOLUME 258 374

SCHEDULE OF INTERNATIONAL CONFERENCES ON FLUID MECHANICS 376